



Australian Government  
Productivity Commission

# Potential Benefits of the National Reform Agenda

Productivity  
Commission  
Research Paper  
*Overview*

*Report to the  
Council of Australian  
Governments*

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## Key points

- This study assesses the potential maximum (outer-envelope) gains that could be achieved through COAG's National Reform Agenda (NRA) in the long run — assuming *full implementation* of the NRA, and *full adjustment* of the economy to the effects of reform.
- There has been limited information on which to base such estimates and the results should be viewed as exploratory or, at best, broadly indicative.
- Because of inherent differences between the competition and regulatory reform streams and the human capital reform stream, it is not possible to aggregate results into a single measure of the 'impact of the NRA'.
  - That said, the NRA as a whole could be expected to significantly raise activity levels and incomes in all jurisdictions. The benefits would be additional to benefits from 'ongoing' reform programs.
- Improving productivity and efficiency in *energy, transport, infrastructure* and other activities through the competition and regulatory reform streams could provide resource savings of around \$10 billion.
  - After a period of adjustment, GDP could be increased by nearly 2 per cent.
  - Governments' combined *net* revenues could rise by up to around \$5 billion, with the distribution between governments varying across reform areas.
- Achievement of a 5 per cent improvement in the productivity of *health service delivery* could equate to resource savings (or additional resources to spend on health care) of around \$3 billion.
  - After a period of adjustment, this would imply a potential increase of nearly \$4 billion in *net* revenues of Australian governments after 10 or more years.
- Enhancement of *workforce participation and productivity* through the NRA stream directed at health promotion and disease prevention, education and work incentives could potentially result in increases in GDP of around 6 and 3 per cent, respectively, after 25 or more years.
  - However, the magnitude of prospective *net* gains in GDP, and in governments' fiscal balances, would depend on the magnitude of costs incurred by governments in implementing specific reform programs.

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# Overview

Over the last one and a half decades, Australia has experienced continuous economic growth and significant increases in household incomes. This growth has been underpinned by wide-ranging reforms including implementation of the National Competition Policy (NCP). However, many of the reforms initially agreed to by the Council of Australian Governments (COAG) are now in place. An ageing population, global competition and ongoing technological change mean that further reform is needed if Australians are to achieve their potential for even higher living standards in the future.

This imperative has been recognised by COAG, which is embarking on an ambitious new National Reform Agenda (NRA) to address known impediments to further productivity improvement and to achieve higher workforce participation and productivity (box 1).

The Productivity Commission has been requested to evaluate the benefits potentially available from the NRA (box 2). Achieving meaningful estimates of likely outcomes has proved challenging. It has required inferences to be made from limited available information about the sectors affected by reform, and judgements to be made about the scope for improved economic outcomes under the NRA. Consequently, there remains a significant degree of imprecision, arising from:

- lack of specificity about the nature and extent of policy and program, and subsequent economic change that are likely to arise from reform through COAG processes of ministerial councils, NRA individual action plans and legislation;
- lack of detailed evidence on productivity, price and workforce participation changes that could be achieved through NRA and related changes for Australia as a whole and for individual jurisdictions;
- difficulties in separating the potential effects of reforms already in train and ongoing economic change from the effects of reforms to be initiated under the NRA;
- the influences not captured in the analysis of funding decisions of Australian governments; and

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- influences that are not captured in the analysis, including the effects of changes in the mix between paid and unpaid employment (such as reductions in unpaid child care, carer activity and volunteerism).

#### Box 1      **The NRA at a glance**

The National Reform Agenda comprises three streams — competition, regulatory reform and improvements to human capital.

- The *competition* stream involves reforms in the areas of energy, transport, infrastructure and planning, and climate change.
- The *regulatory reform* stream comprises two distinct sets of initiatives. The first is designed to promote best-practice regulation making and review. The second focuses on reducing the regulatory burden in ‘hot spots’ where overlapping and inconsistent regulatory regimes are impeding economic activity.
- The *human capital* stream covers three areas — health, education and training, and work incentives.
  - The health element comprises two distinct parts. The first seeks to improve the delivery of health services and to modify specific purpose health payments where they cause perverse outcomes. The second is aimed at improving workforce participation and productivity by reducing the incidence of illness, injury and disability and chronic disease in the population.
  - The education and training element seeks to equip more people with the skills needed to increase workforce participation and productivity. Four areas have been targeted: early childhood development; literacy and numeracy; transitions from school to further education or work; and adult learning.
  - The workforce incentives element is designed to increase workforce participation by improving incentives for those groups with the greatest potential to raise their participation rates: people on welfare, the mature aged, and women.

In calculating the potential economic and revenue implications of reform, the Commission has drawn attention to these issues and, to the extent possible, indicated the sensitivity of the results to the assumptions used.

The results in all reform areas — and particularly the ‘new’ human capital reform stream — are exploratory and should be viewed as only broadly indicative of the benefits potentially available from full implementation of the NRA. The results are intended to help governments better understand the potential scale and distribution of reform’s broad economic and fiscal impacts. *The estimates are not forecasts of the impacts of the NRA.*

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## Box 2      **The Commission's task**

The Commission was asked to investigate, as part of its supporting research program, the potential economic and government revenue impacts of the NRA, as outlined in the 10 February 2006 COAG meeting Communiqué. The main purpose of the investigation is to help governments better understand the scale and distribution (including State and Territory) of the anticipated broad economic and fiscal impacts of reform. (The Commission has not been asked to report on matters relating to climate change technology and adaptation.)

The Commission's task is not to comment or advise on the implementation of the NRA. Decisions on the implementation of reforms and funding are to be made by COAG and relevant governments on a case-by-case basis.

In the time available, the Commission has sought to advance understanding of the possible economic and fiscal outcomes associated with the NRA. The analysis emphasises the likely directions of potential change and broad magnitudes. It does not provide projections of the impacts of the NRA or of individual policy actions, which would be better handled in individual inquiries or studies concerned with implementation options and issues.

The focus of the quantitative modelling in this study is on the longer-run 'outer-envelope' effects of change. That is, it assumes full implementation of the NRA and related changes and complete adjustment of the economy to these effects — typically requiring some 10 years from implementation. Transitional effects are not modelled.

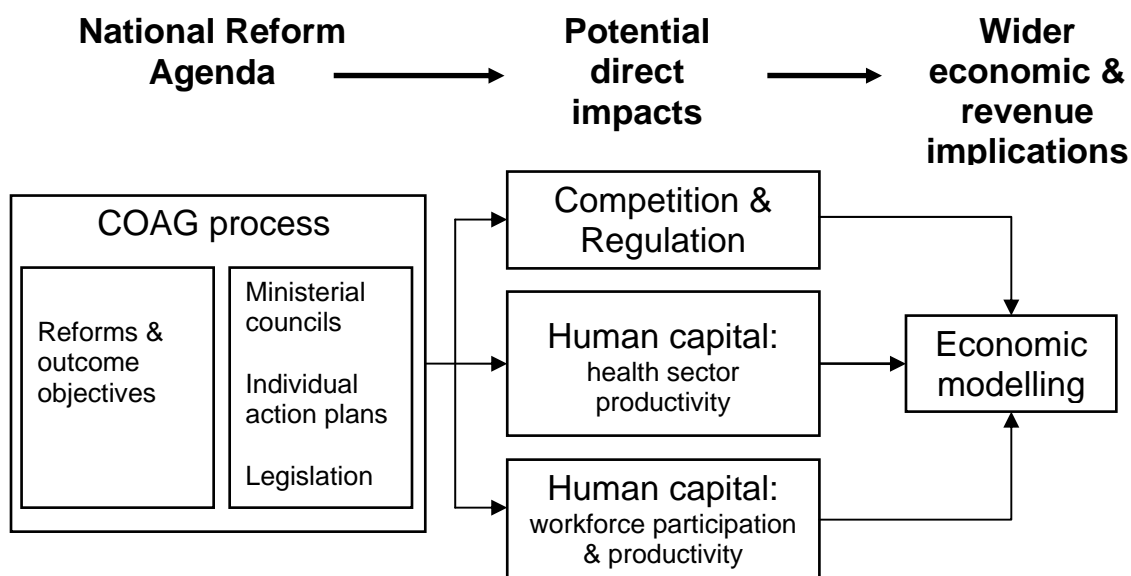
In undertaking the study, the Commission was asked to consult with Heads of Treasuries. It has also consulted widely with sectoral experts and government agencies to test assumptions and receive feedback on analytical and modelling approaches. The consultations generally supported the approach adopted, recognising the ambitious nature of the undertaking and the compressed time scale for its completion.

*Notwithstanding these consultations, the analysis has not been subject to the level of public scrutiny typical of Commission public inquiries, and many aspects of the assessment remain preliminary in nature.*

## **The Commission's approach**

The NRA and what is known about its implementation plans and detailed reform objectives have guided the quantification of its potential direct impacts — in other words, the policy scenarios (or 'shocks'). These shocks were then used to model the potential maximum — 'outer-envelope' — longer-run effects of the NRA, assuming full implementation of the NRA and complete adjustment to the effects of reform.

Figure 1 Analytical framework



It became evident early in the study that the NRA reform streams developed by COAG differ in some important respects.

- The competition and regulatory reform streams can be regarded as falling broadly within the framework established by the previous National Competition Policy, with a focus on productivity and economic efficiency of activities and industries within product markets. Changes in activity levels would characteristically pass the commercial test explicit in the Commission’s economic modelling.
- The health service delivery component of the NRA’s human capital stream also follows the traditional focus on productivity improvement. However, the health system is complex, with a myriad of market and non-market influences determining outcomes and options for achieving them, in ways distinct from the activities covered in the competition and regulatory reform streams.
- The human capital substreams — health promotion and disease prevention, education and training, and work incentives — all focus on individuals and their potential to contribute to workforce participation and productivity. In contrast, the competition and regulation streams focus on activities or industries.
- The achievement of workforce participation and productivity improvements would require significant additional discretionary outlays by government and households, which could not be included in the Commission’s modelling.

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- The lead-time between reform and the realisation of benefits from the health promotion and disease prevention and education and training substreams is likely to be protracted relative to other reform streams.

Because of these differences, estimates of the impacts of each reform stream are not comparable. In particular, they cannot be aggregated to provide a single meaningful estimate of the ‘impact of the NRA’. For this reason, results for the

- competition and regulatory reform streams,
- health service delivery area of the human capital stream, and
- workforce participation reform area

are presented, and need to be considered, separately.

The economic and fiscal results for each stream have been estimated using an economy-wide general equilibrium model that has been specially updated for this study (box 3).

### **Box 3      Modelling framework**

The Commission has used economy wide general equilibrium modelling to quantify the economic and revenue implications of the NRA. Similar frameworks have been used by the Commission on three previous occasions to illustrate the impacts of widely-based national reform — in 1995 for Hilmer and related reforms, in 1999 for a smaller range of NCP reforms of particular relevance to rural and regional Australia, and in 2005 to report on the consequences of NCP reform.

This study uses an updated version of the model adopted in the 2005 exercise. The model — referred to as the Monash Multi-Regional Forecasting – National Reform Agenda (MMRF–NRA) model — treats each State and Territory as a separate economic region with over 50 industry sectors in each jurisdiction.

For this study, the MMRF model was updated to include:

- a more detailed treatment of government finances and the fiscal effects of the introduction of the Goods and Services Tax (GST); and
- a revised treatment of transport services and energy.

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## The competition and regulatory reform streams

### Competition stream

The competition stream of the NRA is intended to:

...further boost competition, productivity and the efficient functioning of markets. It focuses on further reform and initiatives in the areas of transport, energy, infrastructure regulation and planning and climate change technological innovation and adaptation. (COAG 2006a, pp. 4–5)

The infrastructure activities covered by the competition stream include ports and port authorities, handling and storage facility operations, rail freight infrastructure and electricity transmission grid and gas pipeline operation.

Other nationally significant infrastructure activities, including telecommunications, international liner shipping and postal services, are not within the scope of the NRA. Airports, waterways and shipping channels are not of central focus in the NRA at this stage and are not included in this study.

A common aspect of each of the activities covered by the competition stream is that they are subject to wide-ranging economic regulation, regulatory decision making, competitive tendering of purchasing decisions, and competitive neutrality of government business enterprises.

For energy, transport and other infrastructure covered by the competition stream of the NRA, available information suggests that measures to increase competition, could reduce the impediments to efficient investment and reduce investment risk (table 1). Achievement of the productivity benefits alone would directly benefit users of the goods and services covered by the competition stream by around \$2 billion.

While these potential direct benefits to users are substantial, the realised benefits from NRA could be even higher. Areas not canvassed that potentially could yield additional benefits include:

- measures that directly target urban transport congestion, in addition to measures focused on the management of national freight corridors (a separate study is reporting to COAG on congestion issues); and
- more streamlined regulatory procedures affecting bulk commodity port and handling infrastructure.

Policy responses to climate change are likely to have implications for the operation and regulation of energy markets. However, the Commission has not been asked to



examine matters pertaining to climate-change related technological innovation and adaptation.

**Table 1 Maximum potential direct benefits of the competition stream**

<i>NRA sector</i>	<i>Order of magnitude of 'outer-envelope' effect</i>	<i>Nature of potential change</i>
Energy		
• Electricity	Lower prices of electricity to final users by around 2 per cent, on average	Increased dispatch efficiency in the NEM, more cost-reflective pricing, greater competition between generators, improved regulation of transmission infrastructure and reduced investment risks
	Lower regulatory costs to government	Increased regulatory efficiency from referral of regulation of the NEM to the AER
• Gas	Small decreases in retail gas prices	Increased competition between natural gas suppliers to the Australian market, reduced investment risk and regulatory compliance costs
Road and rail transport	Improved productivity in road and rail freight service provision by around 5 per cent	Improved operational efficiency of the rail network; reduced impediments to innovation in road vehicle configuration and use; reduced compliance costs of regulation; and improved transport infrastructure planning and project appraisal
Ports and associated infrastructure	Improved productivity in major container terminal service provision by around 10 per cent, on average	Increased operational efficiency and reduced impediments to new entrants and efficient investment into port service operations

## Regulatory reform

Regulation is pervasive in modern societies and, if well targeted and designed, offers significant benefits. It facilitates many everyday transactions and can help deliver economic, social and environmental outcomes that may not have been possible within the normal workings of markets. At the same time, complying with regulation costs businesses and individuals time and money; and regulation can also have broader economy-wide costs, such as through raising prices or reducing consumer choice, innovation and productivity. Accordingly, to ensure that regulation delivers the greatest *net* benefit to society, it needs to be properly justified and well designed.

The regulatory reform stream of the NRA focuses on:

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...reducing the regulatory burden imposed by the three levels of government. (COAG 2006a, p.8)

COAG also noted that ‘the benefits from each regulation must not be offset by unduly high compliance costs’.

Available information suggests that the compliance costs of regulation are significant and could amount to as much as 4 per cent of GDP. While quantifying the proportion of those costs that can be avoided is difficult, domestic and international experience suggests that reductions in the order of 15 to 25 per cent have been committed to, or are likely to be achieved.

If a 20 per cent reduction in Australian compliance costs were to be achieved through full implementation of NRA-consistent reforms, this could result in a direct saving to activities and industries of as much as \$8 billion (in 2005-06 dollars).

Achievement of such gains would require that NRA-consistent reforms avoid simply transferring compliance costs between business and government (or households). Instead, genuine NRA-consistent reforms should afford *net* reductions in costs to the community as a whole.

In addition to these potential direct savings, reducing the regulatory burden could produce further efficiency gains. Based on the scope for further reform (indicated by the range of outstanding legislative reviews and the issues confronting the NRA regulatory ‘hots spots’), such gains could be potentially significant and even exceed the direct benefits from lower compliance costs.

### **The potential economy-wide payoffs from the competition and regulatory reform streams could be large**

Modelling undertaken for this study indicates that achievement of the productivity and price effects potentially available from the competition and regulatory reform streams of the NRA could add significantly to national output — of up to around 2 per cent of GDP, or around \$17 billion (2005-06 dollars) in the longer run. This relates to a period of adjustment, of around ten years, from the implementation of reform. With potentially higher activity levels, household disposable income and household consumption could increase by around one and a half per cent or over \$400 per person, supported mainly by higher real after-tax wages and salaries.

Given the pervasive reach of regulation, the estimated outer-envelope benefits of reductions in regulatory compliance costs are substantial and account for around three quarters of the total output gain. Reform in road and rail freight transport accounts for around one fifth of the total.

To the extent that there are additional benefits from the implementation of the legislative review program (particularly when addressing regulatory hot spots), the economic benefits from full implementation of the NRA could be higher than modelled. Moreover, dynamic benefits from more competitive markets, such as the stronger incentives for service providers to continue to improve their productivity and service quality and to innovate in order to achieve a competitive advantage, are also likely to provide further additions to the potential benefits modelled.

## Implications of competition and regulatory reforms for States and Territories

To indicate the implications of national reform across Australia, the Commission has estimated the potential economic impacts of NRA at the State and Territory level. These calculations are underpinned by the state-based modelling framework adopted for this study (see box 3). This modelling has been supported by state-specific policy scenarios for the energy and ports sectors, and by the assumption of uniform changes across jurisdictions for road and rail transport and for reduced regulatory compliance costs.

Under these modelling scenarios, all jurisdictions are projected to achieve higher output levels from national reform. After the relocation of labour needed to achieve higher output levels, output (measured by gross state product (GSP)) per person employed is projected to rise in all jurisdictions (table 2). Improved productivity would also raise real wages and household disposable incomes, in turn raising potential consumption levels per person in all jurisdictions.

Table 2 **Indicative output implications of NRA competition and regulatory reforms**

Per cent

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	<i>ACT</i>	<i>Aust</i>
Real GSP/GDP	1.6	1.1	2.0	1.3	3.4	1.4	3.2	0.7	1.7
Employment	-0.1	-0.5	0.2	-0.2	1.4	-0.1	0.5	-0.7	..
Output per person employed	1.7	1.6	1.8	1.5	2.0	1.5	2.6	1.4	1.7

.. Assumed zero.

Behind these consolidated estimates, the impacts of individual reforms are likely to vary between regions. For example, further reform of the National Electricity Market is projected to benefit those participating jurisdictions with the greatest assessed reform opportunities — in particular, New South Wales. Reform in the road and rail transport sectors is projected to benefit Western Australia relative to

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other regions, mainly because of the relative importance of distances to the commercial and industrial centres of the eastern coast and the export orientation of the Western Australian economy.

A broadly-based reform program such as the NRA therefore tends to even out the variable regional impacts of individual reforms.

### **Government revenue implications of competition and regulatory reforms**

Government revenue implications of the competition and regulatory reform streams have been assessed on the basis that government spending, in real terms, would be determined by COAG and relevant jurisdictions. Under this assumption, the fiscal benefits of reform are modelled as accruing to government, in the first instance, in the form of a higher ‘operating balance’ — the model’s estimate of government *net* revenue. Changes in this balance would be influenced by growth in income and GST tax receipts and changes in the cost of goods and services purchased by government. However, by assumption, potential changes in *real* government spending on goods and services are not included. Additional real government outlays would be determined by COAG and relevant jurisdictions on a case-by-case basis.

The projected outer envelope increase in Australia’s GDP and national income with the implementation of competition policy and regulatory reforms could raise Australian governments’ net revenue substantially — by around \$5 billion (2005-06 dollars). Of this amount Commonwealth Government net revenue is projected to increase by around \$3 billion while the net revenues of State, Territory and local governments collectively are projected to rise by around \$2 billion. The main influence on Commonwealth revenue is company and personal income tax collections, while the main influence on State, Territory and local government revenues is property tax and GST receipts. Both Commonwealth and State, and Territory governments benefit from lower priced inputs to government service provision associated with higher productivity.

### **Human capital stream**

As recognised at the February 2006 meeting of the Council of Australian Governments (COAG), a healthy, skilled and motivated population is critical to workforce participation and productivity, and hence Australia’s future living standards. Further, the ageing of the population means that:

... there will be relatively fewer Australians of working age. To avoid putting too great a burden on those already in work, more Australians need to realise their potential by entering or rejoining the workforce. At the same time, in the face of intense global competition and changes in technology, any reduction in workforce participation needs to be offset by improvements in the ability of the workforce and in productivity. (COAG 2006a, p.1)

By focusing on outcomes directed at enhancing participation and productivity, the human capital stream of the NRA aims to provide Australians with the opportunities and choices they need to lead more active and productive lives.

The human capital stream is made up of three substreams — health, education and training, and work incentives (figure 2). The health substream includes a separate component directed at increasing the effectiveness of the health system.

**Figure 2 Human capital stream and indicative objectives and outcomes**

Health	Education & Training	Work Incentives
<b>Health promotion and disease prevention</b>		
Reduce the proportion of the working-age population not participating in the workforce due to illness, injury or disability	Increase the proportion of children entering school with basic skills for life and learning	Encourage and support increased workforce participation
Reduce prevalence of key risk factors that contribute to chronic disease	Increase the proportion of young people meeting basic literacy and numeracy standards, and improve overall levels of achievement	
Reduce incidence of chronic disease	Increase the proportion of young people making a smooth transition from school to work or further study	
<b>Health system</b>		
Increase effectiveness of the health system in achieving health outcomes	Increase the proportion of adults who have the skills and qualifications needed to enjoy active and productive working lives	

Source: Adapted from COAG Communiqué, Attachment A, February 2006, p. 1.

As indicated, increasing the effectiveness of the health system focuses on activities or industries, whereas enhancing workforce participation and productivity focuses on individuals and is discussed separately.

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## Effectiveness of the health system

The NRA seeks to:

Increase the effectiveness of the health system in achieving health outcomes (COAG 2006d, p. 15).

Reform in the delivery of health services affords the potential to reduce impediments to improved productive efficiency in health service delivery, and to thereby achieve lower costs and/or increased provision, including through higher quality or safety, of health services. It is a matter for COAG to determine how the resources freed by the efficiency improvements might be utilised to advance health or other desired outcomes.

The NRA canvasses a number of reform possibilities, including the review of health system funding arrangements via the Commonwealth-State Specific Purpose Payments (SPPs), the operation of the Medicare Benefits Scheme, utilisation of information and communications technologies and removing impediments to the efficient use of the health workforce. In July 2006, COAG approved several measures aimed at improving the productivity of the health workforce.

Assessing the scope to improve productive efficiency in the delivery of health services is fraught with difficulties. Despite the strategic directions provided by COAG, there is limited information available about likely specific reforms. Nor is there as much evidence-based information about the costs and benefits of reform. What is available suggests that performance gaps for the provision of clinical and other health services, between the least-cost and other service providers can be considerable — estimates of 10 to 20 per cent are common. However, the available indicators have significant limitations. In particular, they are based on (sometimes dated) historical information and do not isolate the effects of policy choices (eg achievement of equity goals in the regional provision of services) from efficiency and other influences. The indicators are also based on an examination of the industry *in situ*, are not ‘forward looking’, and do not fully take account of the potential for change, as NRA seeks to do. For example, they do not take account of the potential benefits of health workforce reform or of reform of funding arrangements.

Potentially, improved productivity of health service delivery will benefit all jurisdictions. However, there is too little information to make finer judgements about the division of benefits across jurisdictions. Given the potential across jurisdictions for wide-ranging change, simple comparisons of productive efficiency of public hospitals, for example, are not considered to be a sufficiently reliable guide to overall reform opportunities.

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Against this background, consultations during the course of the study and earlier qualitative studies by the Commission revealed wide acceptance that significant benefits are potentially available from reform in health service delivery. Consistent with such views, the Commission has applied a 5 per cent improvement in productivity in health service delivery as a broad indication of what could potentially be achieved through full implementation of NRA-consistent reforms. Achievement of this potential could result in resource savings of as much as \$3 billion (2005-06 dollars), which could be channelled to provide a higher level of health service as well as meeting other spending priorities.

The achievement of productivity gains of this order from full implementation of the NRA could add up to around 0.4 per cent to GDP, or nearly \$4 billion in the longer term after a period of adjustment (more than ten years). Lower health service costs and higher activity levels could raise household disposable income and consumption by as much as 0.2 per cent. With higher incomes, household consumption of health services is projected to increase.

Model estimates suggest an increase in government gross revenue approaching \$1 billion (2005-06 dollars). After account is taken of potential impacts of reform on the cost of government service provision and taxation receipts, model estimates suggest State, Territory and local government net revenue could potentially rise by over \$2.5 billion and Commonwealth revenue by up to nearly \$1.5 billion (2005-06 dollars), including the cost saving from improved health sector productivity.

## **Workforce participation and productivity**

The human capital stream of the NRA comprises three distinct substreams directed at improving workforce participation and productivity — health promotion and disease prevention, education and training, and work incentives. Each substream:

...aims to provide Australians with the opportunities and choices they need to lead active and productive lives. (COAG 2006a, p. 2)

This reform group focuses on individuals and their potential to contribute to:

- workforce participation — that is, whether a person is in employment or looking for work; and
- productivity — a person's contribution to output while at work.

International comparisons indicate that there is scope to enhance Australia's workforce participation and productivity. This 'first take' is supported by more detailed analyses that suggest the scope for improvement from full implementation of each substreams is substantial. However, the time needed for benefits to

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materialise for some human capital reforms (particularly in the health and education areas) could extend over several decades.

With a changing demographic structure due to ageing and other influences, the Commission used the purpose-built demographic model developed for its 2005 study into the 'Economic Implications of an Ageing Australia' to quantify the potential longer-run impacts of the human capital stream on the workforce 25 years out.

The demographic modelling estimated that, with the achievement of NRA human capital indicative objectives and outcomes (figure 2), an increase in workforce participation of up to around 4.9 percentage points could be possible — potentially offsetting the projected impact of ageing on the participation rate over the next 25 years. Factors influencing decisions would include: attitude to paid employment; financial incentives (including interaction between the welfare and tax systems); institutional impediments and workplace flexibility; and the availability of support services.

The potential structural changes associated with higher participation are projected to mainly affect mature-age workers and women, and are within the bounds of workforce changes seen over the last 25 years. However, the additional participants would tend to work fewer hours than 'average' and have lower skill levels, or would need to overcome physical or other impairments to join the workforce.

Most of the (potential) increase in the workforce is likely to result from changes in work incentives. Such programs are mainly a Commonwealth responsibility and include family tax arrangements, disability support pensions and superannuation. These programs have been subject to recent reform. Health, education and training are shared Commonwealth, State and Territory responsibilities.

Full implementation of the health and the education and training substreams of the NRA could also potentially raise the level of workforce productivity by as much as around 1 percentage point, also over the next 25 years. Such an increase would be additional to ongoing labour productivity growth — projected at 1.75 per cent per year (the average for the past few decades) in the Commission's study of Economic Implications of an Ageing Australia, or around 54 per cent over the next quarter of a century.

In addition to affecting workforce participation and productivity, which are the focus of this study, the human capital reforms could also influence the level and age composition of the population. In particular, improved human health achieved through reform could contribute to increased longevity of the Australian population. However, quantifying the economic and fiscal implications of possible changes in



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the aggregate size and composition of the population as a result of the NRA, while worthwhile, was not feasible in the time frame of this study.

### **Potential economic and fiscal effects of human capital reforms**

Projected higher workforce participation and productivity could potentially raise effective labour inputs (quality-adjusted hours worked) substantially — by around 8 per cent from levels that would otherwise apply. The achievement of higher labour inputs and the employment of those inputs by industry would potentially raise national output, measured by GDP, above levels that would be otherwise achieved.

Projected higher participation levels are estimated to raise output by up to around 6 per cent, while higher productivity of incumbent workers is estimated to raise output by nearly 3 per cent — after the effect of reforms bite and after a period of adjustment. With higher output, per capita household disposable income and consumption and government revenue could also increase.

Importantly, however, while potentially substantial both in absolute terms and relative to the projected changes for the competition, regulatory reform and health service reform areas, the ‘gross’ estimates do not take into account program and other implementation costs — which could be sizable — and are not comparable with estimates of the household and fiscal effects of other streams (see box 4).

With this important caveat in mind, model estimates of the impact of human capital stream reforms suggest:

- with higher output and more people in paid employment, household disposable income and household consumption could increase by up to around 7 per cent or around \$1 800 (2005-06 dollars) per person, before any additional household financial and other costs;
- achievement of higher workforce participation is estimated to raise State, Territory and local government and Commonwealth net revenue by up to around \$9 billion and \$14 billion (2005-06 dollars), respectively, before the program costs of achieving NRA workforce participation objectives; and
- achievement of higher workforce productivity is estimated to raise State, Territory and local government and Commonwealth net revenue by up to around \$4 billion and \$6 billion (2005-06 dollars), though once again, this is before the program costs of achieving NRA workforce productivity objectives.

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## Other matters

The study guidelines also requested the Commission, to the extent possible, to report on the impact of the NRA on regions and income groups, the separate potential impact of reforms implemented by Australian governments, the expected revenue benefits to *each* State and Territory government and indicative scenarios of the costs of the implementation of the full range of reforms.

Information available to the study did not support meaningful reporting on these matters. Accordingly, while canvassing aspects of the matters in detailed analyses, the Commission has not reported on them in its ‘bottom line’ results. Additional information needed to complete meaningful estimates would include greater implementation details for the NRA, as well as:

- regional industry incidence of benefits of the competition, regulatory burden and health service delivery streams to provide meaningful measures of the regional implications of those streams;
- likely occupation of potential new workforce participants to achieve meaningful measures of the regional implications of the human capital stream;
- relative importance of and dependencies between the actions of the Commonwealth and State Governments in achieving reform; and
- the regional effects of reform and income sharing arrangements that may be generated to achieve meaningful measures of the impact of the NRA on the revenues of individual jurisdictions.

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**Box 4      Limitations of the analysis of the impacts of increased workforce participation and productivity**

The analysis of the potential benefits of the NRA components focused on increasing workforce participation and productivity is novel and exploratory. As indicated, the substreams focus on individuals and their potential to contribute to workforce participation and productivity. By contrast, the competition, regulatory reform and even the health service delivery streams focus on activities or industries and assume no change in household behaviour or choices and no change in workforce characteristics.

The effects of some changes, such as work incentives, could be seen in the near term. However, because of the long lead times associated with reform in areas such as health, education and training, the full impact of the NRA is not likely to be achieved for 25 years or more. Following the achievement of these objectives, there would be a further period of economy-wide adjustment where the benefits would flow through the economy to afford higher levels of output and production income (over around ten years from the impact of reform).

The estimates of the impact of changes in workforce participation focus on potential changes in market activities (ie those arising from participation in paid employment) and do not take account of the impacts of change on:

- non-market activity of households (such as reductions in unpaid childcare, carer activity and volunteerism); and
- the direct household and government costs of achieving higher workforce participation and productivity.

The fiscal estimates do not include initial and ongoing costs of achieving improved health, educational, or training outcomes. Moreover, the fiscal division between the Commonwealth and States and Territories would be sensitive to specific policies. Decisions on actual costs and funding arrangements will be made by COAG on a case-by-case basis.

Finally, while the focus of this study is on the potential impact of the NRA on workforce participation and productivity of the Australian population, this study notes that the reforms could also influence the level and age composition of that population. However, quantifying the economic and fiscal implications of possible changes in the aggregate size and composition of the population as a result of the NRA, while worthwhile, was not possible in the time scale of this study.

Because of the potential importance of these factors, the projected changes in GDP and associated income and government revenue are *not* comparable with the estimates presented for the competition, regulatory reform and even health service delivery streams. It is not possible to aggregate the results into a single measure of the 'impact of the NRA'.